

At Guam, on the morning of December 23, pressure fell to 748.2 millimeters (997.6 millibars) as the center approached and passed the island to the west; winds were from the east, veering to the southeast, force 9, decreasing to 8 during the forenoon. The S. S. *Washingtonian* came under the influence of the typhoon as it was recurving. The minimum pressure recorded on this ship was 746.5 millimeters (995.3 millibars), in latitude 18°00' N., longitude 143°48' E., December 24, 3 p. m., ship's time. The winds were from the south-southeast, force 9. The M. S. *Doña Aurora* also experienced the typhoon winds as it was recurving, but not as much as the *Washingtonian*, for southwest-by-south winds, force 3, were experienced in latitude 22°47' N., longitude 144°38' E., with a minimum

pressure of 756.8 millimeters (1,009.0 millibars), at 3 p. m., December 24 (ship's time).

The upper winds over Guam, December 20 to 22, were east-northeast, backing to northeast and north-northeast, with velocities from 20 to 67 kilometers per hour. There was no chance for any ascents on December 23, but the pilots of the 24th and 25th showed a south quadrant current, with velocities as high as 70 kilometers per hour and weakening. During the period of this typhoon, the pilots from the Netherland East Indies showed the existence of a persistent southwest and west quadrant current, the stations at Koepang and Menado indicating this very well, and it may be supposed that this air flowed toward and reached the typhoon center.

CLIMATOLOGICAL TABLES

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DESCRIPTION OF TABLES

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The description of tables and charts which appears in each January issue of the REVIEW has been separated this year into two parts with the chart descriptions immediately following table 4.

Table 1 presents average and extreme values for the 42 climatic sections into which the continental United States is divided, and for the sections of Alaska, Hawaii, and Puerto Rico, and is based on all available data collected by regular and cooperative Weather Bureau stations.

Table 2 gives the data ordinarily needed for climatological studies for about 180 Weather Bureau stations making simultaneous observations at 7:30 a. m. and 7:30 p. m. daily, 75th meridian time, and for about 20 others making only one observation. The altitudes of the instruments above ground are also given.

Beginning with January 1, 1932, all wind movements

and velocities published herein are corrected to true values by applying to the anemometer readings, corrections determined by actual tests in wind tunnels and elsewhere.

Table 3 gives, for about 37 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation, depth of snowfall, and the respective departures from normal values, except in the case of snowfall. The sea-level pressures have been computed according to the method described by Prof. F. H. Bigelow in the REVIEW of January 1902, 30: 13-16.

Table 4 lists the severe local storms reported in the United States during the month. It is compiled from reports furnished mostly by officials of the Weather Bureau. The portions of this table which describe tornadoes and windstorms other than tornadoes are summarized in the December issue of the REVIEW and more complete descriptions of tornadoes, other windstorms, and hailstorms are contained in the United States Meteorological Yearbook.